

Jurnal Manajemen Teknologi

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Format

Naskah hendaknya ditulis singkat dan jelas, konsisten, dan lugas. Jumlah halaman terdiri dari 20 (dua puluh) halaman sudah termasuk (gambar dan tabel) dan sebaiknya *appendiks* tidak disertakan dalam naskah. Naskah ditulis dalam spasi tunggal pada satu sisi kertas ukuran A4 (210 x 297 mm), Huruf yang digunakan adalah Garamond 12 pt. Naskah dapat ditulis dengan menggunakan bahasa Indonesia atau bahasa Inggris yang baik dan benar.

Naskah disajikan dalam beberapa bagian, dimulai dari Pendahuluan, Pengembangan Hipotesis, Metodologi Penelitian, Hasil dan Pembahasan dan Kesimpulan, serta Daftar Pustaka.

Judul

Pemberian judul sebaiknya singkat dan jelas maknanya, tidak lebih dari 15 kata.

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Penulis 2

*Nama Fakultas, Nama Universitas

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Abstrak

Abstrak hendaknya dibuat tidak melebihi 200 kata, menjelaskan fenomena (1 atau 2 kalimat, maksimal 10 kata), tujuan, sampel, metodologi, dan temuan penelitian secara umum (3-4 kalimat). Abstrak dibuat dalam 2 versi, Bahasa Inggris dan Bahasa Indonesia, dan dilengkapi dengan 5 kata kunci / *keywords*.

1. Pendahuluan

Bagian ini menjelaskan fenomena yang diteliti, menengahkan hubungan fenomena dengan teori yang ada (salah satu referensi harus berupa jurnal yang terbit dalam kurun waktu 10 tahun terakhir), dan menjelaskan tujuan penelitian.

2. Pengembangan Hipotesis

Bagian ini menyertakan teori sebelumnya yang diambil dari referensi primer (*grand theory*), dan jurnal-jurnal mutakhir. Bagian ini juga menjelaskan argumentasi mengenai hubungan antar variabel-variabel yang diteliti. Paragraf argumentasi hubungan antar variabel tersebut diakhiri dengan pernyataan hipotesis secara eksplisit.

Untuk penelitian yang bersifat eksploratif, pengembangan hipotesis dapat digantikan dengan referensi-referensi yang mendasari *research question* untuk penelitian tersebut.

3. Metodologi Penelitian

Bagian ini menjelaskan pendekatan analisis yang dilakukan, apakah menggunakan pendekatan kualitatif atau kuantitatif, profil responden/kasus, ukuran dan penentuan sampel, metode pengambilan data, operasionalisasi variabel, dan metode analisis.

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4. Hasil

Bagian ini terdiri atas hasil uji validitas dan realibilitas, dan hasil analisis yang telah dilakukan sesuai dengan metode analisa yang telah dijelaskan sebelumnya beserta interpretasinya.

5. Pembahasan

Pada bagian ini penulis membahas hubungan antara penemuan penelitian yang dilakukan dengan hasil penelitian sebelumnya, memberikan penjelasan mengapa hipotesis ditolak atau diterima, memberikan penjelasan alternatif terhadap kesamaan atau ketidaksesuaian hasil penelitian yang dilakukan penulis dengan penelitian sebelumnya, implikasi terhadap hasil riset (dampak secara manajerial dan dampak secara keilmuan), serta menunjukkan batasan dari penelitian dan memberikan rekomendasi untuk penelitian selanjutnya. Rekomendasi untuk penelitian selanjutnya juga harus mempertimbangkan batasan dari penelitian yang dilakukan.

6. Kesimpulan

Bagian ini menyimpulkan penelitian dan dampak dari penelitian yang dilakukan.

Daftar Pustaka

Menampilkan seluruh referensi yang dipakai dalam penulisan artikel yang akan dipublikasikan yang jumlahnya lebih dari 15 referensi, dimana jumlah jurnal (termasuk jurnal terbaru yang terbit dalam kurun waktu 10 tahun terakhir) lebih banyak dibandingkan dengan referensi berupa buku dan mengikuti gaya penulisan referensi menggunakan *APA (American Psychological Association) style*.

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Buku

Wibisono, D. (2006). *Manajemen Kinerja: Konsep, Desain dan Teknik Meningkatkan Daya saing Perusahaan*. Jakarta: Penerbit Erlangga. ISBN: 979 781 540 4.

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Rumus, Gambar, dan Tabel

Setiap rumus diberi nomor pemunculan di sisi kanan dengan menggunakan angka arab di dalam kurung. Sedangkan setiap tabel dan gambar diberi nomor menggunakan angka arab disertai dengan keterangan (judul). Nomor dan keterangan tabel diletakkan di atas tabel, sedangkan nomor dan keterangan gambar diletakkan di bawah gambar dengan posisi di kiri.

The Impact of Entrepreneurship Orientation, Human Capital, and Social Capital on Innovation Success of Small Firms in East Java

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Fakultas Bisnis dan Ekonomika, Universitas Surabaya

Abstract. *Although entrepreneurship plays an important role on the innovation success of small enterprises, the empirical evidence on this issue is hardly to find. This current study contributes to the empirical finding of innovation success using the case of small firms in East Java. Employing factor analysis and ordinary least squared (OLS) regression, this study finds that entrepreneurship orientation is a key variable affecting innovation success in small firms. Human capital has negative impact on innovation success, while social capital is not a significant contributor on innovation. The implication of these findings closely related to the potential entrepreneurship for developing small firms to medium scales.*

Keywords: *entrepreneurship, innovation success, small firms, human capital, social capital.*

Abstrak. *Meskipun kewirausahaan memainkan peran penting dalam kesuksesan inovasi perusahaan kecil, temuan empiris terhadap hal ini masih sulit ditemukan. Penelitian ini memberikan kontribusi temuan empiris tentang kesuksesan inovasi perusahaan-perusahaan kecil di Jawa Timur. Dengan menggunakan analisis faktor dan regresi ordinary least squared (OLS), penelitian ini menemukan bahwa orientasi kewirausahaan merupakan faktor kunci bagi kesuksesan perusahaan kecil. Modal insani memiliki dampak negatif terhadap kesuksesan inovasi, sementara modal sosial bukan merupakan contributor yang signifikan bagi kesuksesan inovasi. Implikasi dari temuan ini terkait langsung dengan potensi kewirausahaan dalam mengembangkan skala perusahaan dari kecil menjadi menengah.*

Kata kunci: *orientasi kewirausahaan, kesuksesan inovasi, perusahaan kecil, modal insani, modal sosial.*

1. Introduction

Innovation plays a pivotal role in business competition. While Schumpeter introduces a term of 'creative destruction' to point out the role of agents in economic development (Borchert & Cardozo, 2010; Pettus, 2011), the process of entrepreneurship in developing countries tends to refer to 'creative imitation' due to imitation process from other side of the world with different levels of adhocracy (Naranjo-Valencia *et al.*, 2011).

Lee and Zhou (2012) argue that innovation success is about evolution from creative imitation to creative innovation. Hence, successful innovation has different stories between a large companies and small firms. Large manufacturing companies experience remarkable investments in new technologies and equipments with world-class skills. In contrast, there is a set of complex challenges for small firms to achieve innovation success due to lack of resource in R&D activities (Laforet, 2009).

The innovation success is influenced by many factors. Parkman *et al.* (2012) argue that entrepreneurship orientation is one of the important factors affecting innovation success, especially in creative industry. Gallie and Legros (2012) highlight the important role of human capital in innovation when studying French firms.

In addition, Wu *et al.* (2008) include social capital in examining innovation success of firms. Unfortunately, a study on innovation success that includes these three important variables is sparse. Studying the impact of these variables separately provide incomplete picture of innovation success. A comprehensive empirical study accommodating the effect of these three variables is urgently needed for providing a holistic analysis on innovation success. In addition, most empirical studies on the field explore innovation success on only large and medium companies. Very rare studies are on small firms.

As argued in Laforet (2009), a study on innovation success in small firms is more challenging as it is involve examination on a complex challenges and resource constraints. A study on small firms provides another spectrum of the similar issue of innovation success. The paper examines the impact of entrepreneurial orientation, human capital, and social capital on innovation success in responding the empirical gaps mentioned above. It also provides insight into a contingent model in explaining innovation from the perspective of entrepreneurial orientation, following the argument by Rubera & Kirca (2012) and Baker & Sinkula (2009).

2. Literature Review and Hypothesis Development

The construct of innovation brings nexus among numerous variables, such as entrepreneurial orientation or innovation success. In order to draw a distinction between innovation in entrepreneurial orientation and innovation success, this paper highlights that innovation success is the concrete result from innovation process (Baker & Sinkula, 2009). It is different from innovation in entrepreneurial orientation, which is about openness to new idea, including new products and new methods (Pearce II *et al.*, 2008).

As point out by Guimaraes, Brandon, & Guimaraes (2010), innovation success needs to be examined through the comparison on its competitors. Firms with innovation success will lead the competition, when the competitors prefer to adopt its technology. The model employs three independent variables as determinants of innovation success, namely market orientation, entrepreneurial orientation and social capital. Those variables are expected to affect on innovation success as dependent variable. The model constitutes three independent variables, i.e. entrepreneurial orientation, social capital and human capital. The dependent variable is innovation success.

$$IS = f(EO, SC, HC)$$

The IS stands for innovation success, while EO, SC, and HC represents entrepreneurial orientation, social capital and human capital, respectively. Innovation success represents a concrete result, whichs spring from innovation success. Baker & Sinkula (2009) draw a distinction between innovation success and innovativeness. Innovation success refers to the outcome, while the 'innovativeness' as an element of entrepreneurial orientation is associated with openness to new idea (Lumpkin *et al.*, 2009). To examine the innovation success of a firm, Guimareas *et al.* (2010) suggest a comparison with direct competitors. Firms with poor innovation heavily rely on their rivals' knowledge to maintain their technological capacities (Lhuillery, 2011).

EO has generally been conceived of as an organizational decision-making proclivity favoring entrepreneurial activities (Covin & Wales, 2012). The entrepreneurial firm is considered with product-market innovation, undertakes somewhat risky venture and proactive innovation (Bouchard, 2011).

The central proposition of social capital is that networks of relationships, which constitute a valuable resource. Entrepreneurial social capital constitutes three elements: view of networks, which closely related to entrepreneurial social networks; view of resource, which is about resource-based management, and view of integration, which refers to shared resourced with common goal (Wang & Shi, 2012).

Human capital refers to the employee's value, which is associated with valuable skill set as production input. This is about compensation and circumstance, which enable shared knowledge among workers (Wu *et al.*, 2008). Hence, there are three proposed hypotheses.

H1: Social capital affects innovation success

Social capital (SC) is a relevant variable for innovation success. The social capital can encourage employees to enhance their knowledge without suspicion and concealment, through external and internal sources, and converted into new ideas for innovation (Ayuso *et al.* 2011; Landry *et al.*, 2002; Wu *et al.*, 2008). On the other hand, Xiao *et al.* (2010), indicate that the interaction between innovation success and social capital can be negatively due to environmental information uncertainty.

H2: Human capital affects innovation success

Human capital (HC) is another determinant variable for innovation success (Wu, *et al.*, 2008). Gallié & Legross (2012) identify positive impact of R&D training on patented innovation. It is high-risk exposure for small business due to huge amount of fixed cost to carry out research and development activities (Rammer *et al.*, 2009). Human capital gathers knowledge through learning by doing and experience, which then provides knowledge for innovation success of a company (Gallie and Legros, 2012). Through accumulated knowledge and research and development activities, human capital might increase the capacity of firms to develop innovation success.

H3: Entrepreneurial orientation (EO) affects innovation success

Entrepreneurial orientation (EO) plays pivotal role in improving a firm's performance (Rammer *et al.*, 2009). There are some ground breaking researches provide evident about positive impact of entrepreneurial orientation on small firm performance (Bojica, *et al.*, 2011). Entrepreneur orientation via market knowledge and competition lead a company to produce successful innovation (Wu *et al.*, 2008). Initiative action and supervision have been two important aspects of entrepreneurship orientation in improving the possibility of innovation success (Xiao, 2010).

3. Research Method

The unit analysis of this research is small businesses. The term of 'small enterprises' refers to companies with asset less than Rp500 million and sales less than Rp. 2.5 billion as Law No 20, which was enacted in 2008. The data collection is carried out under the random sampling approach. The data collection carried out in Surabaya, Indonesia with small business enterprises as a unit of observation. According to Indonesian Statistic Board, the population of small business in Surabaya in 2012 was 362.448 units, implicating that the ideal sample size is 380 enterprises (Krejcie & Morgan, 1970). This research project observes 168 enterprises which represent the same characteristic of the sample with population. The observed enterprises represent the key players of small enterprises and, hence, provides a close picture to the ideal samples, as shown in Table 1. The main reason to choose the random sampling approach and to adopt the characteristic of the population is avoid bias in estimation and to achieve consistency.

The data collection employs direct interview and mailed questionnaires. The direct interview was carried out in November 2012. This research conducted interviews in five small business centers. During this observation, 80 samples were collected. Because required data was not sufficient, then this research collaborated with local business communities in obtaining more samples. Thereafter, the questionnaires were delivered to the members of such organizations and 88 small businesses provided responds.

This research adopts the questionnaires from Baker & Sinkula (2009) and Wu *et al.* (2008), Lumpkin, Cogliser, & Schenider (2009) and Gupta *et al.* (2011), focusing on the variables using in this research. The analysis of data is carried out in three subsequent steps: the tests of validity and reliability, factor analysis, and regression analysis. To deal with the construct with factor and item analysis, the research carries out regression approach with SPSS tool.

Although the research focuses on small enterprises, the collected data consist also few medium enterprises. This is due to the a priori assumption about the size of the enterprises while sending the questionnaires. However, there is only one enterprise with more than 100 workers.

The data collected in Surabaya, a city with population of around 3.5 million. The main economic activities indicate that many enterprises become core business in trading, manufacture, services and construction sectors. The data showed that sample represents two major sectors, i.e. trading and manufacturing (Table 1). These two sectors cover 69% of the samples. Services are accounted for 21.4% of the total samples, while the construction sector has a proportion of 9.5%.

Table 1. Descriptive Data

Groups	Frequency	%
Trading	66	39.3
Manufacture	50	29.8
Construction	16	9.5
Services	36	21.4

Source: Authors' calculation from the collected samples.

4. Results

The validity test is related to the extent to which a questionnaire is understandable for respondents. The result relies heavily on experts in focus group discussion. When the preliminary questionnaire is formed, respondents from small business and related organizations were invited to test the degree of understandable. Based on the comments from focus group discussion, the questionnaire were revised and re-tested. A number of suggestions bring about adaptation from original questionnaires.

For reliability test, this research carried out Cronbach alpha test. Tabel 2 presents the results of the reliability test. The coefficients of Cronbach's alpha for all variables are greater than 0.6 indicating a high level of internal consistency for scales under this specific sample.

Following the rule of thumb provided by Cronbach (1951) the observed sample is considered as a high level of consistency when the value of Cronbach alpha is greater than 0,6. This finding implicates that all observed variables are reliable for further analysis under regression function.

Table 2. Summary of Reliability Test

Variable	Cronbach alpha
Innovation Success	.655
Social Capital	.980
Entrepreneurial Orientation	.986
Human Capital	.978

Source: Authors' calculation from the questionnaire data

In order to investigate the linear relationship between each item of questions and unobserved variables, this research performs factor analysis. The results indicate that items EO6, EO7, SC5 and SC6 should be removed, as there is a potential linear relationship with unobserved variables. The factor loading results presented in Table 3 show only the independent variables. The factor loading for the items in Table 3 indicates that the values are larger than 0.9, indicating no linear relationship to unobserved variables. According to Ho (2006), items with factor values less than 0.9 should be removed from analysis and those with factor value equals and more than 0.9 should be included. Table 3 presents the items with values 0,9 and above.

Table 3. Final Result of Factor Loading

Items	Factor 1	Factor 2	Factor 3
EO1	.972		
EO2	.969		
EO3	.969		
EO4	.967		
EO5	.962		
SC1		.971	
SC2		.967	
SC3		.964	
SC4		.952	
HC1			.984
HC2			.970
HC3			.962
HC4			.952

Source: Authors' calculation from the questionnaire data

The normality tests provide ambiguous results, as shown in Table 4. After the early step of normal-distribution screening, some variable are transformed with z-scores.

The final result indicates that all variable are normally distributed with z-score between -2 and +2. In contrast, Kolmogorov-Smirnov test and Shapiro-Wilk test presents different story that those variables confirm that the data are not normally distributed. In the case of ambiguity exist, one might argue following the z-score. A note should be kept in mind that the normality distribution is in the border.

Table 4. Normality Test

Variable	Minimum z-score	Maximum z-score	K-S test	S-W test
IS	-1.6569	1.42353	.194***	.891***
EO	-1.46063	1.88976	.232***	.865***
SC	-1.75480	1.52842	.219***	.914***
HC	-1.02679	1.87544	.217***	.849***

Source: Authors' calculation from the questionnaire data.

The regression results with IS as dependent variable, while SC, EO and HC are considered as independent variable, are as follows:

IS= 1.699*** + 0.145SC + 2.749*** - 0.135HC***

(0.140) (0.180) (0.187) (0.035)

R2 = 0.675***

F test = 82.427

*** = significant at the level 1%

The F test is 82.427, suggesting that the three variables are simultaneously significantly affecting innovation success under the probability value of 1%. Therefore, the null hypothesis that the three dependent variables have no impact on the innovation success is rejected. Furthermore, the R² value is 0.675, implying that the variation of the three independent variables (social capital, human capital, and entrepreneurship orientation) explains more than 67 percent of the variation in dependent variable (innovation success). This is a fairly high value considering that the maximum value of R2 is at 1.

Turning to the coefficient test, there are three hypotheses. Firstly, it appears that the null hypothesis of H1 that social capital affects innovation success isn't rejected. That means social capital has no significant impact on innovation success.

Secondly, the null hypothesis of human capital on innovation success is rejected. This means human capital is statistically significant with negative effect. This evident supports the argument of Rammer *et al.* (2009). In the context of small business, investment in human capital doesn't bring about innovation success.

Another hypothesis is about the impact of entrepreneurial orientation (EO) on innovation success (IS). The null hypothesis that entrepreneurial orientation (EO) doesn't affect innovation success is rejected. The output indicates positive impact of EO on innovation success. This evident is consistent with Parkman, Holloway, & Sebastiao (2012) and Bojica *et al.* (2011).

5. Discussion on Findings

The finding of this research provides evident that entrepreneurial orientation plays a pivotal role on innovation success. This is consistent with the mainstream references about positive impact of entrepreneurial orientation on innovation success (see Baker & Sinkula, 2009, Parkman, Holloway, & Sebastiao, 2011; and Bojica, Fuentes, & Gómez-Grazz, 2011). However, an interesting finding appears in relation to human capital and social capital, which is different with the mainstream literature. The results indicate that human capital has negative impact on innovation success. This is different with the mainstream references (see Wu *et al.* 2008; Gallié & Legross, 2012). This evident supports an alternative argument proposed by Rammer *et al.* (2009).

In other words, the role of human capital in small enterprises is go to the different direction in small firms if compared to medium and large scale firms. This suggests for a policy focusing on improving the human capital of small businesses. The social capital is found to be positive but insignificant affecting innovation success.

This finding implies that networking is although positively influencing innovation of small firms in East Java, the effect is insignificant in improving the successful of innovation.

In other words, a good networking with suppliers and staffs positively affecting innovation of a small firm, but the impact is not significant. This finding is in line with Landry *et al.* (2002), but contrasting Xiao *et al.* (2010). The main reason for the difference in finding with Xiao *et al.* (2010) is mainly due to the scale of the observed companies. Xiao *et al.* (2010) examine large and medium scale companies, while this present study evaluates small firms. A variation in method of analysis also influences the difference in findings.

6. Conclusion and Implications

This study examines the impact of entrepreneurship orientation, human capital and social capital on innovation orientation of small firms in East Java. The main purpose is to provide a comprehensive analysis on the field in the framework of small firms, which is rarely become a focus. Using the factor analysis and OLS regression, this study finds that entrepreneurship orientation is a key variable in improving innovation success, human capital provides negative effect on innovation success, and social capital has a positive but insignificant effect on innovation.

The implications of the findings are two folds. The first implication is related to managerial aspect. Small firms should consider entrepreneurship orientation in improving their innovation. An ability to provide active initiation and an ability to improve competition are two important aspects in entrepreneurship orientation for encouraging new innovation. The second implication is closely related to maintaining networking. As social capital should be considered in operation of small firms, it appears that such investment has not yield innovation success.

In small scale level, it seems that a good relationship with staffs has not induce willingness to create new innovation for the company. In addition, a good relationship with supplier has not yet provide significant contribution to small business to gain improvement in innovation. The outcomes of the findings should be treated with care as the current research has at least two shortcomings. The first shortcoming is the scope of observation is only on small firms in East Java. The findings might be vary for other province in Indonesia, as the characteristic of small business in each province is unique. Hence, the future research is needed in different cultural context. The second shortcoming is related to the complexity in measuring innovation success. This research adopts a simple measure based on the existing theoretical literature. A simple measure might not able to measure the real innovation. In the future, when a more sophisticated measure is found, the representation of innovation measure might be able to capture real innovation in small businesses.

Further research should go into deep analysis with research question on how transformation from small to larger scale company takes place with innovation success. When innovation success comes to main reason for business performance, investment in social capital and human resource development need to be explored to understand the level of high-risk exposure and severe financial constraint for small businesses. To what extent that a firm should pay attention on social capital with opportunity cost and how to handle risk in research and development also need to be taken into account in the context of small business.

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Appendix
Scale items and retained measures

Innovation success (adapted from Baker & Sinkula, 2009)

- Five-point scale with 1 = very unsuccessful and 5 = very successfully (IS1).
1. Our new innovation success rate relative to direct competitors (IS2)
 2. Our new innovation is totally different to our competitors (IS3)
 3. Our firm beat competitor with innovation (IS4).
 4. We alter our product offering to meet customer's need (IS5)

Entrepreneurial orientation (adapted from Lumpkin, Cogliser, & Schenider, 2009)

- Five-point scale with 1 = strongly disagree and 5 = strongly agree.
1. Our firm prefers low risk projects with certain rates of return (EO1).
 2. Our firm is quick to spend money on potential solutions if problems are holding us back (EO2).
 3. In general, our firm favors a strong emphasis on the marketing rather than an innovation (EO3).
 4. In our firm, changes in product or service lines have been mostly of a minor nature (EO4).
 5. Our firm is making no special effort to take business from the competition (EO5).
 6. Our firm always initiates actions firstly instead of responsiveness (EO6).
 7. In our firm supervision from the senior staffs is very important for junior staffs (EO7).

Social Capital (adapted from Gupta, Huang, & Yayla, 2011)

- Five-point scale with 1 = strongly disagree and 5 = strongly agree.
1. Our firm does not depend on a single supplier though they have ability to be served by just one (SC1).
 2. Our firm does not adopt a new technology even from a well known brand unless we test it (SC2).
 3. Our firm builds relationship with suppliers, who are transparent with price break up (SC3).
 4. In our firm, staffs show enthusiasm for my efforts (SC4).
 5. Our staffs are united in trying to reach its goal (SC5).

Human Capital (adapted from Wu, Chang, & Chen, 2008)

- Five-point scale with 1 = strongly disagree and 5 = strongly agree.
1. In our firm, there was a formal training for worker in this year (HC1).
 2. Our employees are compensated based on the value they add to firm as a team (HC2).
 3. In our firm, senior staffs share experience with junior colleague (HC3).
 4. In our firm, employees can work brightly (HC3).